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10/581,831	06/05/2006	Syuji Ichimura	06061/HG	8246

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EXAMINER	
KOKKINOS, NICHOLAS C	
ART UNIT	PAPER NUMBER
4132	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/581,831	ICHIMURA ET AL.	
	Examiner	Art Unit	
	NICHOLAS KOKKINOS	4132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20060605, 20070620, 20070918*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application (PCT/JP2005/000389, filed internationally on 14 January 2005). It is noted, however, that applicant has not filed a certified copy of the application as required by 35 U.S.C. 119(b).

Claims

2. Acknowledgement is made of amendments to the claims submitted 5 June 2006. The amendments have been added to the record.

Specification

3. Acknowledgement is made of amendments to the specification submitted 5 June 2006. The amendments have been added to the record.

4. The use of the numerous trademarks throughout the specification of this application has been noted. Each trademark should be capitalized wherever it appears and be accompanied by the generic terminology.

5. Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Abstract

6. The abstract is objected to because it mirrors the claim language of claim 1.

Appropriate correction is required.

7. Applicant is reminded of the proper language and format for an abstract of the disclosure.

8. The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

9. The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Claim Rejections - 35 USC § 112

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

12. Claim 7 recites "ultraviolet stabilizer (HALS)." Hindered Amine Light Stabilizers, or HALS, are but one type of ultraviolet stabilizer, and others such as Benzophenone, Benzotriazole, and Hydroxyphenyl Triazine may be used in their place. Putting “HALS” in parenthesis does not make definite Applicant’s selection of Hindered Amine Light

Stabilizer as the ultraviolet stabilizer, because it implies the use of the indefinite language "such as," which makes the feature optional. Thus, it is unclear whether claim 7 requires a HALS-type ultraviolet stabilizer, or whether claim 7 encompasses the addition of any ultraviolet stabilizer. See MPEP 2173.05(d).

13. Furthermore, "HALS" is indefinite because it is an acronym that may represent any number of compounds, organizations, structures, etc. For instance, HALS could stand for the Historic American Landscapes Survey, the Houston Area Library System, or the Houston Area Live Steamers.

14. Appropriate correction is required.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

17. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

18. Claims 1-4, 6, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent Application Publication 2000-160121 to Kitayama et al. in view of Japanese Patent Application Publication H09-176581 to Ooshima et al., with corresponding English machine translations.

19. Regarding claims 1 and 2, Kitayama et al. teaches that the adhesive composition of the invention is provided on substrates, examples including tapes, paper, textiles, plastics, films, or sheets (para. 0002). The preamble "a surface protective sheet" is deemed to be a statement with regard to the intended use and is not further limiting in so far as the structure of the product is concerned. In article claims, a claimed intended use must result in a ***structural difference*** between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. MPEP § 2111.02. The article of Kitayama et al. is considered to be a surface protective sheet since it meets all structural limitations of the claim.

20. Kitayama et al. also teaches that the pressure sensitive adhesive layers of the invention are applied to the substrates (para. 0004). Kitayama et al. further teaches that the pressure sensitive adhesive contains a thermoplastic elastomer. The thermoplastic elastomer may comprise either:

21. (1) 100 weight parts (para. 0011) of an aromatic vinyl like styrene (para. 0007) copolymerized with isobutylene (para. 0011), anticipating claim 1

22. (2) 100 weight parts of a polymerization comprising (1) and other random styrene block copolymers (para. 0009, 0010, 0011), anticipating claim 2

23. Kitayama et al. also teaches the addition of tackifier (para. 0017) and that it should be added in weight parts of 10-500 if the styrene block copolymer is normalized to 100 parts by weight (para. 0018). This overlaps applicant's claimed range of zero to less than 20 weight parts.

24. Kitayama et al. teaches the addition of a several compounds that are softening agents, such as polybutene and polyisoprene (para. 0020), but does not specify how much softener should be added. Ooshima et al. teaches that for their pressure sensitive adhesive (para. 0025), based on similar styrene copolymers (SIS) to those of Kitayama et al., softeners should be added (para. 0017). Furthermore, the Ooshima et al. teaches that the softeners should be between 2 and 40 parts by weight (or 0.5-40 parts if using low molecular weight PE wax, and paraffin wax softeners) if the SIS base is normalized to 100 parts by weight (para. 0017). This range overlaps applicant's claimed range of 0-300 parts by weight.

25. The tackiness of pressure sensitive adhesives is a critical property. Too tacky, and the adhesive article is difficult to remove and leaves residue behind. Not tacky enough, and the adhesive article has difficulty adhering to the other surfaces, and may not be reattached after removal. Ooshima et al. teaches this, stating that on one hand, the addition of too much softener can diminish adhesiveness (para. 0017), but when applied correctly, the softeners can improve removability (para. 0018). It would have been obvious to one of ordinary skill in the art at the time of invention to modify the Kitayama et al. adhesive composition with the specific amounts of softener suggested by Ooshima et al. to precisely control the tackiness of the resultant adhesive sheet.

26. Regarding claim 3, Kitayama et al. also teaches that the ratio of styrene system block copolymer and random copolymer should be between 95:5 and 5:95 so that the correct viscosity is obtained (para. 0016). This range overlaps that of applicant's claimed range of 100:0 to 50:50.

27. Regarding claim 4, Kitayama et al. in view of Ooshima et al. does not teach that the melt flow rate of the pressure sensitive adhesive is 0.5 to 300 g/10 min at 190°C and 2.16 kg. However, since the pressure sensitive adhesive of Kitayama et al. in view of Ooshima et al. is of the same structure and has the same composition as the pressure sensitive adhesive of claim 4, one would expect it to exhibit the same melt flow rate.

28. In the alternative, the melt flow rate of a pressure sensitive adhesive, given a specific extruder geometry, load, and temperature, is directly related to the pressure sensitive adhesive's viscosity under those conditions. It is further known that extruders are commonly used in coating adhesive layers on substrates. Kitayama et al. writes

that the viscosity of the pressure sensitive adhesive composition is critical to coating the substrate at lower temperatures, and that optimizing the viscosity by decreasing it allows for higher low temperature coating productivity (para. 0004). Kitayama et al. further writes that viscosity testing was done at 180°C, which is very close (within 10°C) of applicant's 190°C (Table 1).

29. Therefore, the exact viscosity of the adhesive is deemed to be a result effective variable with regard to the melt flow rate. It would require routine experimentation to determine the optimum value of a result effective variable, such as viscosity, in the absence of a showing of criticality in the claimed melt flow rate. *In re Boesch*, 205 USPQ 215 (CCPA 1980), *In re Woodruff*, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990). One of ordinary skill in the art would have been motivated by Kitayama et al. to lower the viscosity under low temperatures such as 190°C in order to increase the melt flow rate under low temperatures. One would have been motivated to increase the melt flow rate because doing so increases extruder productivity, and thus production speed, under a given set of conditions.

30. Regarding claim 6, Kitayama et al. teaches the addition of softening agents (softeners of liquefied polybutene and polyisoprene) (para. 0020). Because Kitayama's softeners are liquefied under ambient conditions, they have low molecular weights, because only low molecular weight polymers have enough freedom to move so they do not solidify under ambient conditions.

31. Kitayama et al. does not teach the addition of softening agents selected from the group of oil, paraffin wax, polyisobutylene, and low molecular weight poly-α-olefin.

Ooshima et al. teaches that softening agents (softeners) such as oil (petroleum system oil and tall oil, para. 0017) and paraffin wax (para. 0018) may be added.

32. As above, the tackiness of pressure sensitive adhesives is a critical property that controls well the adhesive removably adheres to a surface. Softening agents (softeners) encompass a large number of compounds, including oils and paraffin waxes, that are intended to precisely control the tackiness of pressure sensitive adhesives. As such, it would have been obvious to one of ordinary skill in the art to select any of the softeners listed by Ooshima et al. based on their art-recognized suitability (MPEP 2144.07) for the purpose of controlling the tackiness of pressure sensitive adhesives.

33. Regarding claim 7, Kitayama et al. also teaches that the adhesive composition of the invention may contain antioxidants and ultraviolet absorbents (para. 0021).

34. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kitayama et al. in view of Ooshima et al. as applied to claims 1-4, 6, and 7 above, and further in view of European Patent Publication EP0955346 to Ichimura et al.

35. Regarding claim 5, Kitayama et al. in view of Ooshima et al. is relied upon as above. Ooshima et al. teaches the adhesive sheets of the invention are often subjected to adverse conditions, and that excellent weatherability is a requirement for success (para. 0003). Kitayama et al. in view of Ooshima et al. does not specifically teach that the tackifying resin is composed of a hydrogenated rosin ester resin.

36. Ichimura et al. teaches that a tackifier of rosin ester resin should be used, and that from a standpoint of weatherability (weathering resistance), the rosin ester resin

should be hydrogenated (para. 0024). Thus, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the adhesive sheet of claims 1-3 with a tackifier of hydrogenated rosin ester resin in order to improve the weatherability of the pressure sensitive adhesive composition.

37. Regarding claim 6, Ichimura et al. additionally teaches that the sheet may comprise a softening agent of oil or paraffin wax (para. 0026). As above, the tackiness of pressure sensitive adhesives is a critical property that controls well the adhesive removably adheres to a surface. Softening agents (softeners) encompass a large number of compounds, including oils and paraffin waxes, that are intended to precisely control the tackiness of pressure sensitive adhesives. As such, it would have been obvious to one of ordinary skill in the art to select any of the softeners listed by Ooshima et al. based on their art-recognized suitability (MPEP 2144.07) for the purpose of controlling the tackiness of pressure sensitive adhesives.

38. Regarding claim 7, Kitayama et al. in view of Ooshima et al. does not teach the addition of antioxidant, ultraviolet absorber, ultraviolet stabilizer (HALS), antistatic agent, or lubricant to the pressure sensitive adhesive. As above, Ooshima et al. teaches that excellent weatherability (weathering resistance) of polymer adhesives is a requirement for success (para. 0003). Ichimura et al. teaches that one way of improving weathering resistance is to lower the transmittance of light from 200-400nm wavelength to 0.5% or less, and to do this, ultraviolet light absorbers and ultraviolet light stabilizers should be added. Ichimura et al. further suggests Hindered Amine Light Stabilizers (HALS) as possible UV light stabilizers (para. 0026). It would have been obvious to one of ordinary

skill in the art at the time of invention to incorporate ultraviolet absorbers and ultraviolet stabilizers in order to make the adhesive sheet more resistant to weathering, and thus more durable.

39. Regarding claim 8, Ichimura et al. teaches that via the addition of ultraviolet light absorbers and stabilizers to the substrate, the transmission of light of wavelength 200-400 nm is 0.5% or less (para. 0014). Light of 200-400nm wavelength is ultraviolet light.

CONCLUSION

40. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICHOLAS KOKKINOS whose telephone number is (571)270-7384. The examiner can normally be reached on Monday-Thursday 9am-5pm.

41. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Lavilla can be reached on 571-272-1539. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

42. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/NK/
Nicholas Kokkinos
Examiner, Art Unit 4132
31 December 2008

/Alicia Chevalier/
Primary Examiner, Art Unit 1794